



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4

Air, Pesticides and Toxics Management Division

61 Forsyth Street

Atlanta, Georgia 30303-8960

### FEDERAL AIR QUALITY OPERATING PERMITS PROGRAM STATEMENT OF BASIS

Permit Number:	P71-JKY-001
Source:	<b>Louisville Gas &amp; Electric Company, Muldraugh Compressor Station,</b> on highway 31W, Muldraugh, Meade County, Kentucky

#### I. EPA AUTHORITY TO ISSUE THIS PART 71 PERMIT

Section 505(c) of the CAA (Clean Air Act), 42 U.S.C. § 7661d(c) and the regulations promulgated thereunder at 40 C.F.R. § 70.8(c)(4), provide that EPA either issue or deny a title V permit for a source when an EPA objection to a proposed title V permit is not resolved by the permitting authority.

##### I.A. History

###### **Commonwealth of Kentucky Part 70 Program**

The EPA gave interim approval to the Commonwealth of Kentucky's Part 70 permitting program on November 14, 1995 and final approval on October 31, 2001. This approval gave KYDAQ (Kentucky Department for Air Quality) primary responsibility for issuing title V permits for sources under its jurisdiction. However, the EPA retained final authority to determine whether the Commonwealth-issued permits comply with all requirements of the CAA and Part 70.

###### **EPA Authority to Issue this Part 71 Permit**

Section 505 of the CAA, 40 C.F.R. § 70.8 and Kentucky's Rule 401 KAR 50:035 explain EPA's role and the process for KYDAQ to correct a proposed permit in response to an EPA objection. If EPA reviews a proposed permit and issues an objection, then Section 505(c) of the CAA, 40 C.F.R. § 70.8(c), and Kentucky's Rule 401 KAR 50:035, Section 21 provide that the KYDAQ must correct the permit to meet the objection within 90 days. If KYDAQ does not correct the proposed permit within 90 days, then Section 505(c) of the CAA, 40 C.F.R. § 70.8(c)(4) and Kentucky's Rule 401 KAR 50:035 provide that EPA either issue or deny a permit for the source.

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### EPA Objection for LG&E Muldraugh Proposed Title V Permit

The EPA objected to the Commonwealth's proposed title V permit for the LG&E (Louisville Gas and Electric, Muldraugh Station) in a January 26, 2000, letter to the Commonwealth of Kentucky. The 90-day period for resolving EPA's objection expired on April 25, 2000, without the KYDAQ resolving EPA's objection. Therefore, the LG&E facility is subject to the requirements of EPA's Part 71 permitting program.

### EPA Request for a Part 71 Permit Application

On June 30, 2000, EPA requested LG&E to submit a Part 71 permit application. EPA received a timely filed Part 71 application from LG&E on January 2, 2001.

## II. SOURCE INFORMATION

LG&E is a NG (natural gas) compression and purification station. The station is operated as a peak shaving operation where NG is stored during the summer months in underground storage fields and withdrawn in the cold months. When the NG is withdrawn from the storage fields it is filtered, compressed, purified (H<sub>2</sub>S removed) and dehydrated (H<sub>2</sub>O removed).

The source is located on highway 31W, Muldraugh, Meade County, Kentucky. **Meade County is classified attainment** or unclassified for all criteria pollutants. The potential to emit for this source is over title V applicability thresholds for SO<sub>2</sub> (sulfur dioxide), NO<sub>x</sub> (Nitrogen Oxides) and CO (carbon monoxide) (see table 3).

### II.A. Emissions Units

#### Source Emission Units

The following table identifies and describes each emissions unit, such as process units and control devices.

**Table 1. Source Emission Units**

Emissions Units		Air Pollution Control Devices	
ID. No.	Description	ID. No.	Description
01	5.1 MM Btu/hr Internal Combustion Natural Gas Fired Reciprocating Integral Compressor Unit/Two-Cycle Lean Burning	None	None

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Emissions Units		Air Pollution Control Devices	
ID. No.	Description	ID. No.	Description
02	Six (6) 10.4 MM Btu/hr Internal Combustion Natural Gas Fired Reciprocating Integral Compressor Units/Two-Cycle Lean Burning*	None	None
03	Two (2) 14.2 MM Btu/hr Compressor Units/Natural Gas Fired Turbines*	None	None
04	5.1 MM Btu/hr H <sub>2</sub> S Afterburner Which Controls Three (3) Natural Gas Fired Purification Plants (Purification plants #1, #2 and #3)*	None	None
05	12.6 MM Btu/hr Indirect Heat Exchanger (Natural Gas Fired Unit for Purification Plant #3)	None	None
06	12.3 MM Btu/hr Caterpillar Gas Engine - Standby Generator	None	None
07	10 MM Btu/hr Indirect Heat Exchanger (purifier #2 boiler)	None	None

- \* Each compressor, purification plant, etc. are considered separate emissions units because they are individual activities that emit or have the potential to emit regulated air pollutants. However, similar emissions units were combined in this permit into one emissions unit ID to simplify the permit. These emissions units have the same applicable requirements. See 40 C.F.R. § 71.2 for emissions unit definition.

### Insignificant Emission Units

40 C.F.R. § Part 71 allows sources to separately list in the permit application emissions units or activities that qualify as “insignificant” based on potential emissions. The insignificant emissions unit criteria is potential to emit below 2 tons/year for all regulated air pollutants and below 1000 lbs/year or the de minimus level established under Section 112(g), whichever is lower, for HAPs (Hazardous Air Pollutants).

Units that qualify as “insignificant” for part 71 application purposes are in no way exempt from applicable requirements or any other requirements of the part 71 permit. The following table describes each insignificant emissions unit located at the source.

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**Table 2. Insignificant Emission Units**

Insignificant Emissions Units Description
Three (3) direct natural gas-fired boilers for purification plant # 1 with rated capacity of 1.5, 5.0 and 5.0 MM Btu/hr
One (1) natural gas-fired boiler for glycol dehydration with rated capacity of 2 MM Btu/hr
BTEX afterburner for glycol dehydration unit with rated capacity of 3 MM Btu/hr
Anti-freeze usage for compressor engine cooling
One (1) metal degreaser (non-VOC solvent)

### II.B. Potential to Emit

Table 3 includes potential to emit data provided by LG&E. **Potential to emit means** the maximum capacity to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, may be treated as part of its design if the limitation is enforceable by EPA.

LG&E received conditional major permit number S-95-093 from the Commonwealth of Kentucky on May 15, 1995. This permit imposes federally enforceable limitations that limit the potential to emit of LG&E below the prevention of significant deterioration permitting thresholds.

**Table 3. Potential to Emit**

Emissions Unit ID	Potential to Emit for Regulated Air Pollutants in Tons per Year						
	NO <sub>x</sub>	VOC	SO <sub>2</sub>	PM <sub>10</sub>	CO	Lead	HAP
01	60	2	0	1	8	0	1
02	738	30	0	12	102	0	12
03	40	0	8	0	10	0	0
04	2	0	136	0	2	0	0
05	5	0	0	0	5	0	0
06	29	6	0	2	28	0	0

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Emissions Unit ID	Potential to Emit for Regulated Air Pollutants in Tons per Year						
	NO <sub>x</sub>	VOC	SO <sub>2</sub>	PM <sub>10</sub>	CO	Lead	HAP
07	2	0	0	0	4	0	0
Facility Total	876	38	144	15	159	0	13

### III. APPLICABLE REQUIREMENTS

The following table lists the emissions units and their applicable requirements.

**Table 4. Applicable Requirements**

Emissions Unit ID	Pollutant	Emission Limitation / Operational Restrictions	Applicable Requirements	Monitoring		Compliance / Testing
				Record keeping	Reporting	
01		None	None	None	None	None
02		None	None	None	None	None
03		None	None	None	None	None
04	SO <sub>2</sub>	40 CFR 60.642(a) and (b)	Standards for Performance for Onshore Natural Gas Processing, 40 CFR 60 Subpart LLL	40 CFR 60.646; 40 CFR 60.647	40 CFR 60.647	40 CFR 60.644
	Process limitation	7,100 MMSCF per 12 consecutive months	Permit to construct / operate S-95- 093 issued on May 15, 1995	Daily and monthly record keeping of natural gas processed	Deviation* reports every 6 months	None

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Emissions Unit ID	Pollutant	Emission Limitation / Operational Restrictions	Applicable Requirements	Monitoring		Compliance / Testing
				Record keeping	Reporting	
	Process limitation	Maximum throughput of natural gas per unit shall not exceed 4.38 MM SCF/hour - 105 MMSCF/day for units 2 and 3	Permit to construct / operate S-95- 093 issued on May 15, 1995	Daily record keeping of natural gas processed	Deviation* reports every 6 months	None
	Process limitation	Maximum throughput of natural gas per unit shall not exceed 2.08 MM SCF/hour - 50 MMSCF/day for unit1	Permit to construct / operate S-95- 093 issued on May 15, 1995	Daily record keeping of natural gas processed	Deviation* reports every 6 months	None
	H <sub>2</sub> S	20 grains/100 ft <sup>3</sup> as an annual average for plants 2 and 3	Permit to construct / operate S-95- 093 issued on May 15, 1995	Daily sampling and record keeping	Deviation* reports every 6 months	None
05	PM	0.62 lb/MMBtu as a three-hour average	401 KAR 61:015, Section 4(4) and Regulation No. 7	One time compliance demonstration, AP-42 calculation, Record the type of fuel combusted, use of natural gas	Deviation* reports every 6 months	Method 5
	Opacity	40% opacity as a six-minute average	401 KAR 61:015, Section 4(4) and Regulation No. 7	Record the type of fuel combusted, use of natural gas	Deviation* reports every 6 months	Method 9

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Emissions Unit ID	Pollutant	Emission Limitation / Operational Restrictions	Applicable Requirements	Monitoring		Compliance / Testing
				Record keeping	Reporting	
	SO2	5.41 lbs/MMBtu as a 24-hour average	401 KAR 61:015 Section 5(1)	One time compliance demonstration, AP-42 calculation, Record the type of fuel combusted, use of natural gas	Deviation* reports every 6 months	Method 6
06		None	None	None	None	None
07	PM	0.75 lb/MMBtu as a three-hour average	401 KAR 61:015, Section 4(1)	One time compliance demonstration, AP-42 calculation Record the type of fuel combusted, use of natural gas	Deviation* reports every 6 months	Method 5
	Opacity	40% opacity as a six-minute average	401 KAR 61:015, Section 4(3)	Record the type of fuel combusted, use of natural gas	Deviation* reports every 6 months	Method 9
	SO2	6.0 lbs/MMBtu as a 24-hour average	401 KAR 61:015 Section 5(1)	One time compliance demonstration, AP-42 calculation, Record the type of fuel combusted, use of natural gas	Deviation* reports every 6 months	Method 6

\* **Deviation means** any situation in which an emissions unit fails to meet a permit term or condition. A deviation is not always a violation. A deviation can be determined by observation or through review of data obtained from any testing, monitoring, or

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recordkeeping.

40 CFR Subpart Dc is not applicable to emissions unit no. 05 and no. 07 because they were installed in 1967 and 1962 respectively. The potential to emit for emissions unit no. 2 is above the thresholds for new source review applicability. However, emissions unit no.2 was installed in 1963, before new source review regulations were applicable. Emissions unit 04 obtained a synthetic minor construction/operation permit in 1995 to avoid applicability of new source review.

**Table 5. Rationale for the Selected Monitoring**

Emissions Unit ID	Rationale for Monitoring
01, 02, 03, 06	There are no applicable requirements for these emissions units. Therefore, no monitoring requirements are needed
04	This emissions unit is subject to the requirements of NSPS Subpart LLL. This subpart specifies the monitoring required to assure compliance with the emission limitations. Not all monitoring requirements from this subpart were added in the permit because emissions from this emissions unit are below the emissions threshold that require these monitoring. In addition, this emissions unit is subject to the applicable requirements from a synthetic minor construction permit. Daily and monthly recording of natural gas processed and daily sampling of sulfur content was added because of the averaging time (12 consecutive months, SCF/day, annual average of sulfur content) of the requirements. This monitoring was added pursuant to 40 C.F.R. § 71.6(a)(3)(i)(B).
05, 07	Monitoring the type of fuel combusted every day will assure compliance with the applicable requirements. AP-42 calculations show that the use of natural gas inherently keeps the emissions units in compliance with the applicable requirements. This monitoring was added pursuant to 40 C.F.R. § 71.6(a)(3)(i)(B).

#### IV. SECTION 7 OF THE ENDANGERED SPECIES ACT

Section 7 of the Endangered Species Act directs all Federal agencies to use their existing authorities to conserve threatened and endangered species and, in consultation with the Fish and Wildlife Service, to ensure that their actions do not jeopardize listed species or destroy or adversely modify critical habitat. Section 7 applies to management of Federal lands as well as other Federal actions that may affect listed species such as Federal approval of private activities through the issuance of Federal permits, licenses, or other actions.

The Federal agency, or the applicant as the designated non-Federal entity, contacts the



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appropriate local Fish and Wildlife Service office to determine if listed species are present within the action area. The Fish and Wildlife Service responds to the request by providing a list of species that are known to occur or may occur in the vicinity; if the Fish and Wildlife Service provides a negative response, no further consultation is required unless the scope or nature of the project is altered or new information indicates that listed species may be affected.

If listed species are present, the Federal agency must determine if the action may affect them. A may affect determination includes those actions that are not likely to adversely affect as well as likely to adversely affect listed species. If the Federal agency determines that the action is not likely to adversely effect listed species (e.g., the effects are beneficial, insignificant, or discountable), and the Fish and Wildlife Service agrees with that determination, the Fish and Wildlife Service provides concurrence in writing and no further consultation is required.

The EPA and LG&E identified the gray bat and the Indiana bat as listed species within the action area. On March 12, 2002, LG&E submitted a project analysis to the Fish and Wildlife Service concluding that EPA's Part 71 permit action is not likely to adversely affect these species. On April 19, 2002, the Fish and Wildlife Service sent a letter to LG&E informing them that they concur that the permit action is not likely to adversely affect these species. Therefore, the requirements of Section 7 of the Endangered Species Act have been fulfilled.

For more information on the Section 7 of the Endangered Species Act requirements, visit [http://endangered.fws.gov/consultations/sec7\\_faq.html](http://endangered.fws.gov/consultations/sec7_faq.html)

### **V. USE OF ALL CREDIBLE EVIDENCE**

Determinations of deviations, continuous or intermittent compliance status, or violations of the permit are not limited to the testing or monitoring methods required by the underlying regulations or this permit; other credible evidence (including any evidence admissible under the Federal Rules of Evidence) must be considered by the source and EPA in such determinations.

### **VI. PUBLIC PARTICIPATION**

#### **VI.A. Public Notice.**

As described in 40 CFR 71.11(a)(5), all part 71 draft operating permits shall be publicly noticed and made available for public comment. The Public Notice of permit actions and public comment period is described in 40 CFR 71(d). There will be a 30 day public

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comment period for actions pertaining to a draft permit. Public notice has been published in a daily or weekly newspaper of general circulation in the area affected by this source.

### VI.B. Opportunity for Comment

Members of the public may review a copy of the draft permit prepared by EPA, the application, this statement of basis for the draft permit, and all supporting materials for the draft permit. Copies of these documents are available at:

Meade County Public Library	U.S. EPA, Region 4
400 Library Place	Air, Pesticides and Toxics Management Division
Brandenburg, Kentucky 40108-1045	61 Forsyth St. S.W.
(270) 422-2094	Atlanta, GA 30303-8960
<a href="http://www.meadereads.org/">http://www.meadereads.org/</a>	(404) 562-9139

Copies of the draft permit and statement of basis are also available electronically on the EPA, Region 4 Website at <http://www.epa.gov/region4/air/permits/index.htm>

Any interested person may submit written comments on the draft Part 71 operating permit during the public comment period to:

César Zapata  
U.S. Environmental Protection Agency, Region 4  
Air, Pesticides and Toxics Management Division  
61 Forsyth St. S.W.  
Atlanta, GA 30303-8960

E-mail: [zapata.cesar@epa.gov](mailto:zapata.cesar@epa.gov)

All comments will be considered and answered by EPA in making the final decision on the permit. EPA will keep a record of the commenters and of the issues raised during the public participation process.

Anyone, including the applicant, who believes any condition of the draft permit is inappropriate must raise all reasonable ascertainable issues and submit all arguments supporting their position by the close of the public comment period.

Any supporting materials submitted must be included in full and may not be incorporated by reference, unless the material has been already submitted as part of the administrative record in the same proceeding or consists of state or federal statutes and regulations, EPA documents of general applicability, or other generally available reference material.

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### VI.C. Opportunity to Request a Hearing

A person may submit a written request for a public hearing to:

César Zapata  
U.S. Environmental Protection Agency, Region 4  
Air, Pesticides and Toxics Management Division  
61 Forsyth St. S.W.  
Atlanta, GA 30303-8960

E-mail: [zapata.cesar@epa.gov](mailto:zapata.cesar@epa.gov)

The request must state the nature of the issues to be raised at the public hearing. Based on the number of hearing requests received, EPA will hold a public hearing whenever it finds there is a significant degree of public interest in a draft operating permit. EPA will provide public notice of the public hearing. If a public hearing is held, any person may submit oral or written statements and data concerning the draft permit at that time.